SPAWAR

FORCEnet

Naval Enterprise Alignment & Integration

9 November 2005

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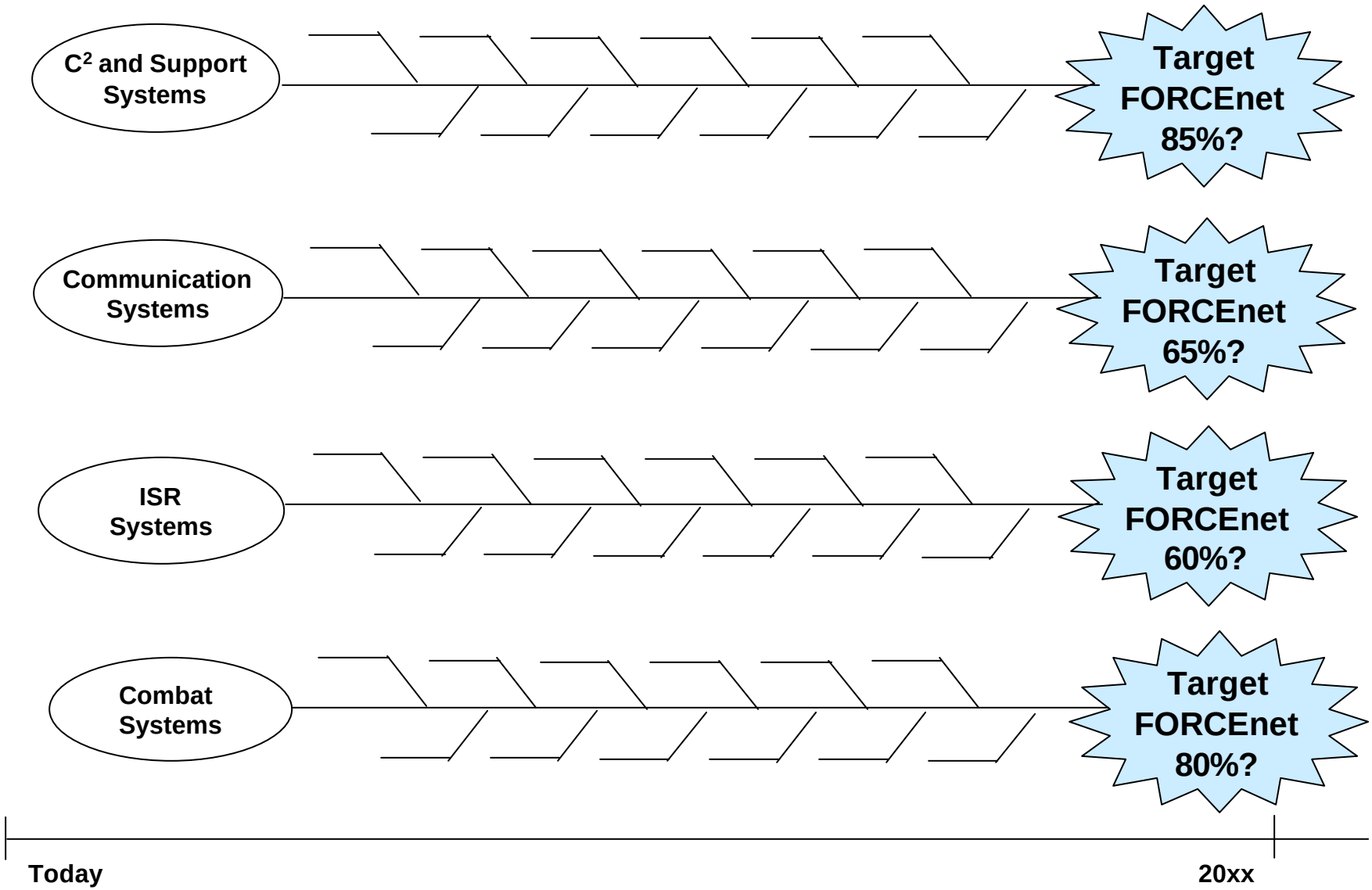
Deputy, Architecture & Human Systems (052A)

(Statement A: Approved for public release; distribution is unlimited (8 NOVEMBER 2005)

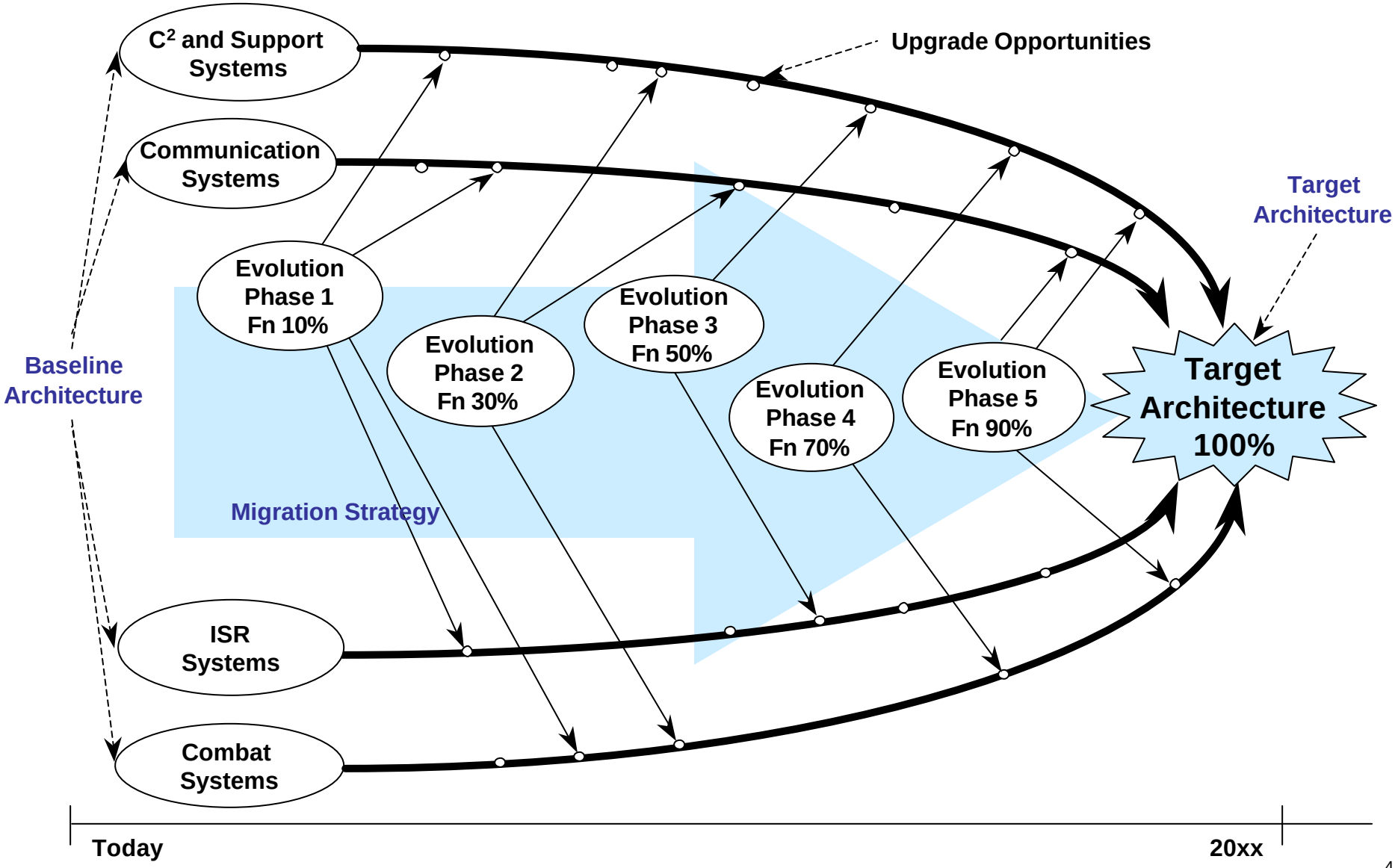
Agenda

- Context
- FORCEnet Architecture & Standards as Integration Motivator
- Architecture Organization
- FORCEnet Reference Model
- Governance

What Are We Trying to Fix?



FORCEnet Enterprise Alignment

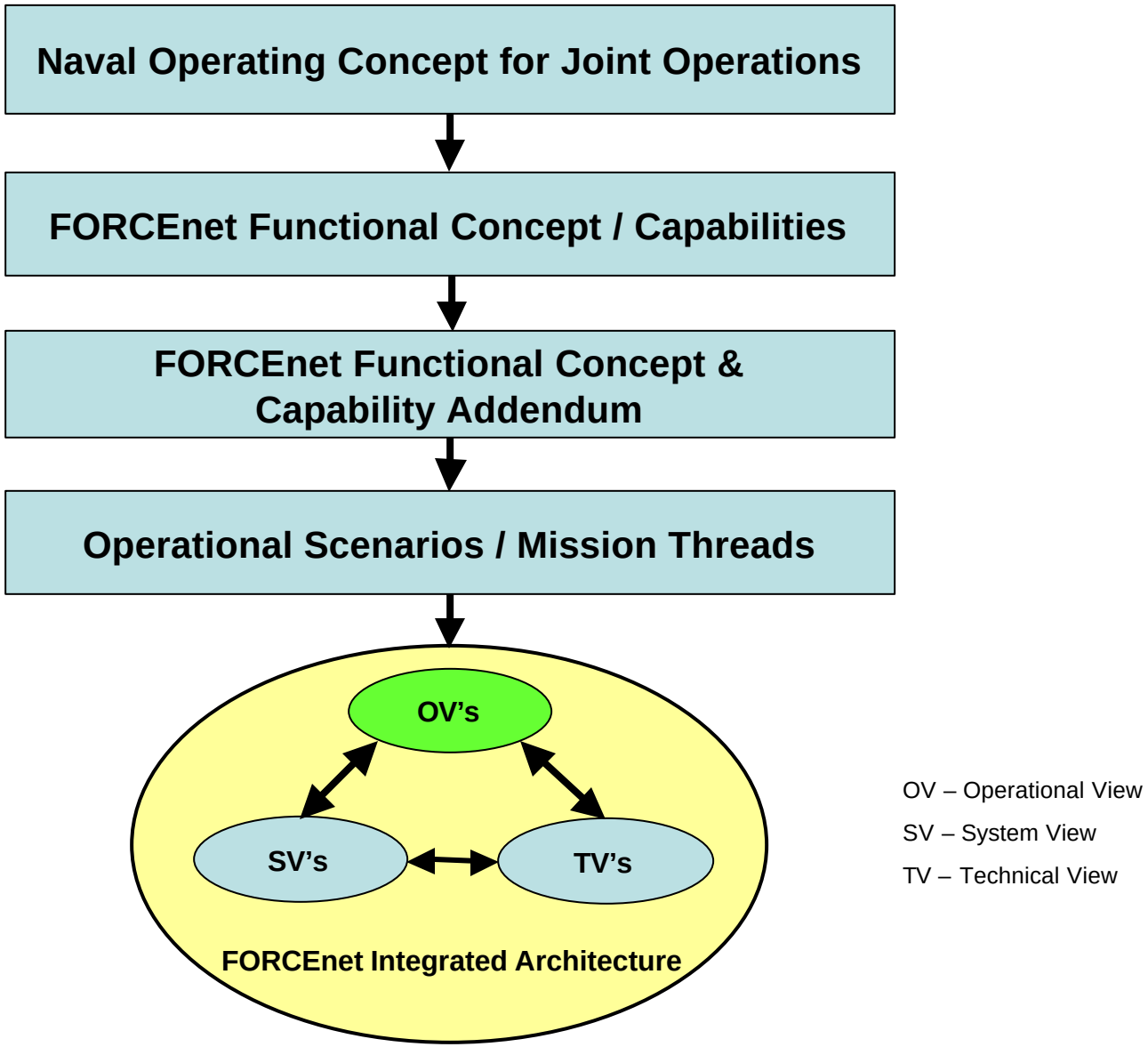


Purpose of FORCEnet Architecture

- **Architecture Data is Used to Describe**
  - What Exists Today (As-Is) Plus Planned/Programmed (To-Be)
  - What Should Exist in the Future (Target)
- **FORCEnet Integrated Architecture Data Supports the Entire Naval Enterprise:**
  - Capabilities
    - Warfighters
    - Resource Sponsors
  - Acquisition Community
    - Acquisition and Technology Managers
    - Solution Developers

Goal: Provide the Objective Data Needed to Support the Decision-Making Process

Capability-Based Process

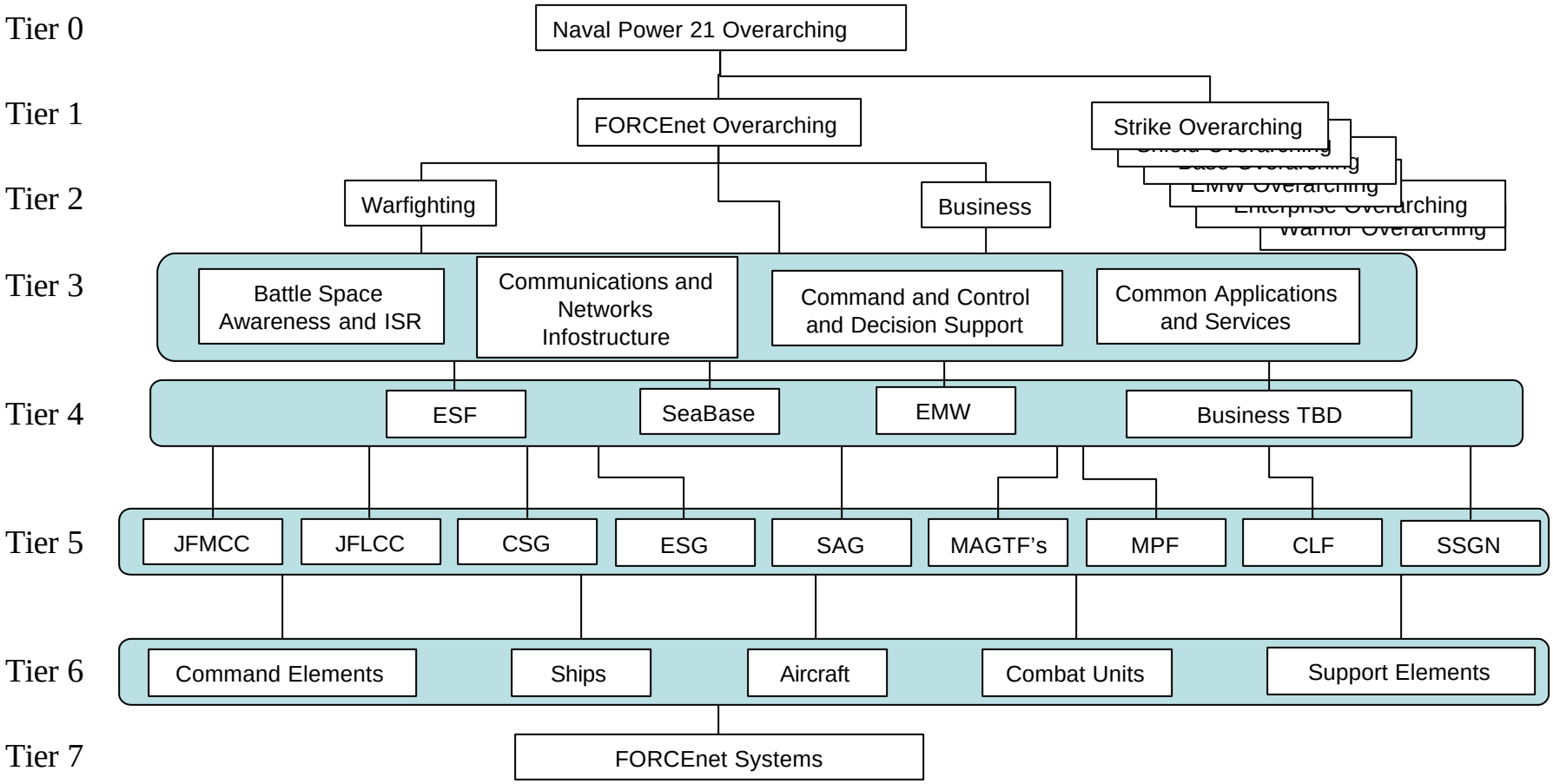


OV – Operational View

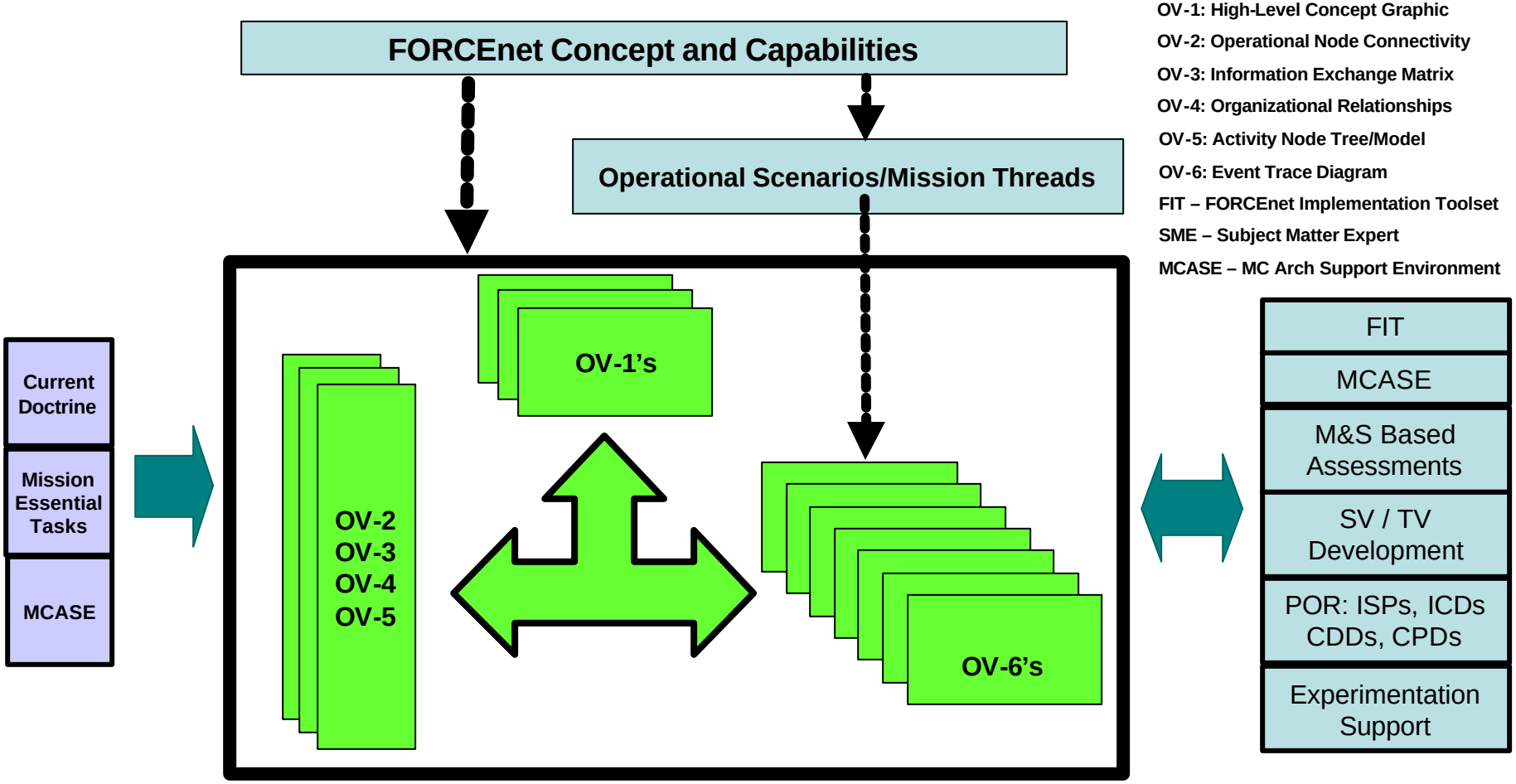
SV – System View

TV – Technical View

FORCEnet Integrated Architecture Hierarchy



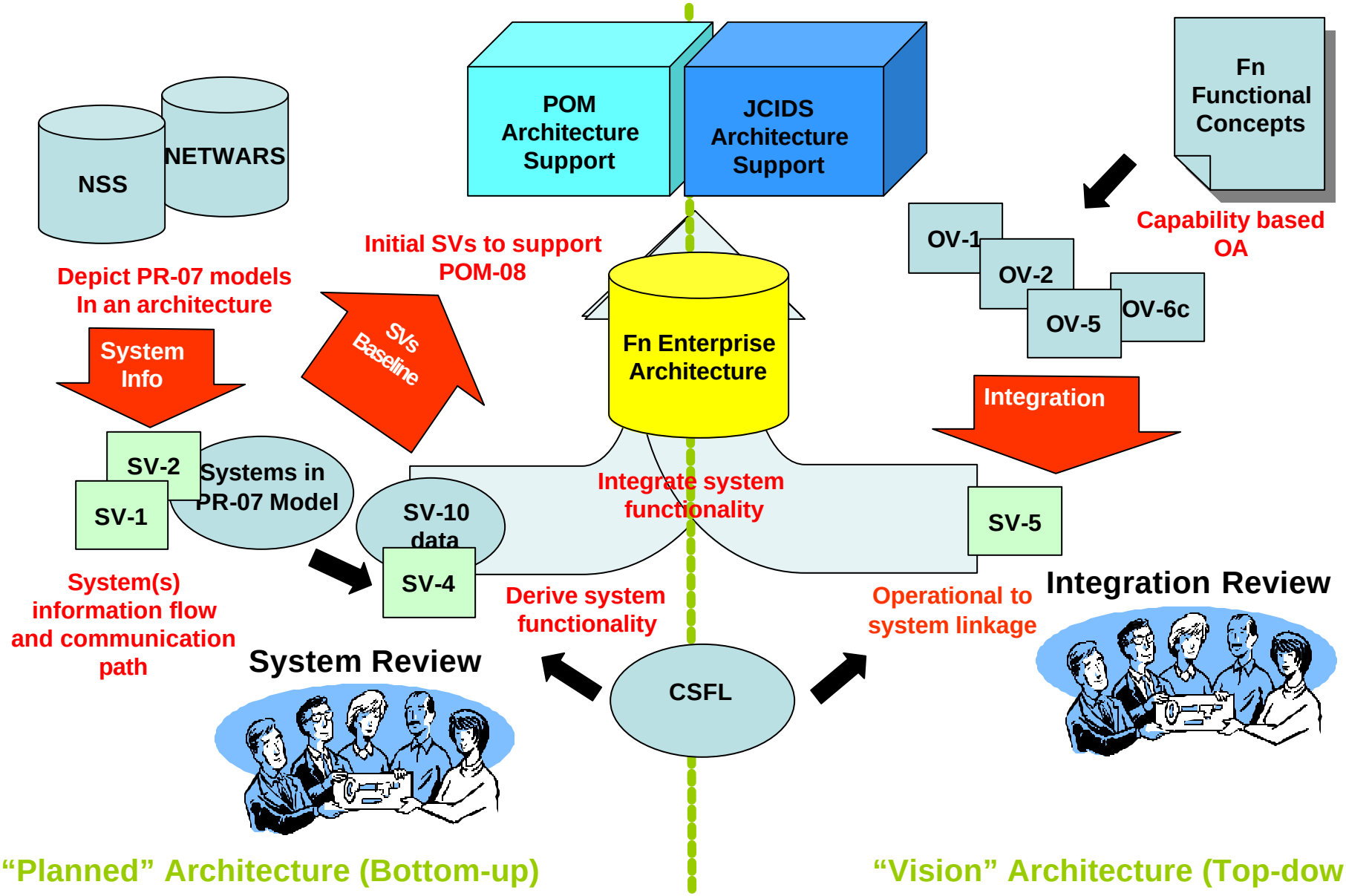
Operational View (OV) Process



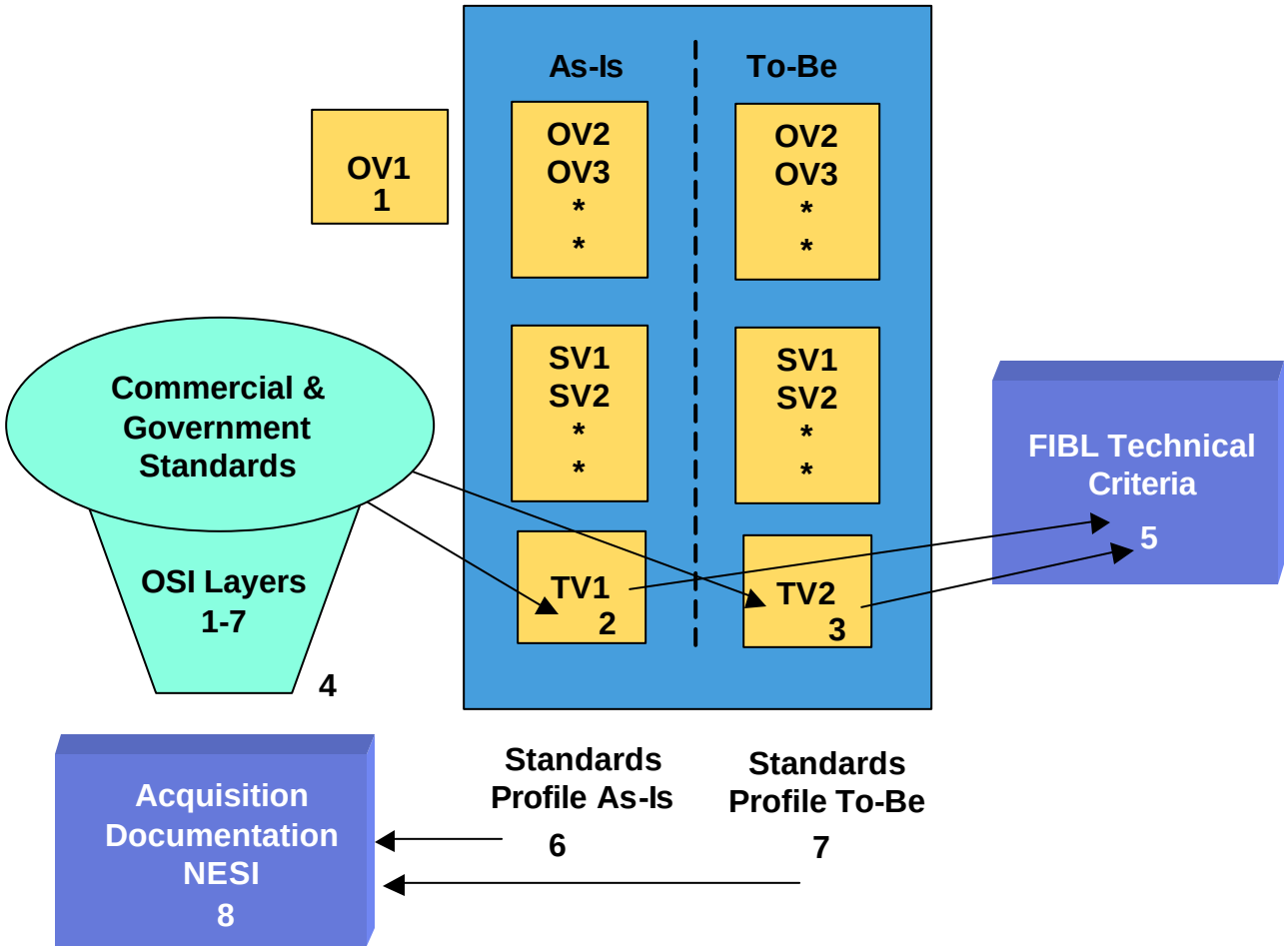
OV-1: High-Level Concept Graphic
OV-2: Operational Node Connectivity
OV-3: Information Exchange Matrix
OV-4: Organizational Relationships
OV-5: Activity Node Tree/Model
OV-6: Event Trace Diagram
FIT – FORCEnet Implementation Toolset
SME – Subject Matter Expert
MCASE – MC Arch Support Environment

Operational SME Team Review

System View (SV) Process



FORCEnet Technical Views
"The Building Code"



Technical Views Revised Continuously to Keep Pace With Changing IT Standards in the Commercial Market

FORCEnet Standards History

Fn Standards TV-1/2 Mar 05

Fn A&S Vol. II, Standards Dec 04

Fn Standards WG Sessions Sep 04 – Mar 05

Fn Arch Conference, Monterey May 04

Fn A&S Ver. 1.4 – Rel. OPNAV/N6/7 Apr 04

Fn Arch Conf, Quantico Dec 03

Nov 03 Fn A&S Version 1.1- Release NNWC

Sep 03 Fn Architecture Conference, New Orleans

Jul 03 Fn Architecture Conference, Pax River

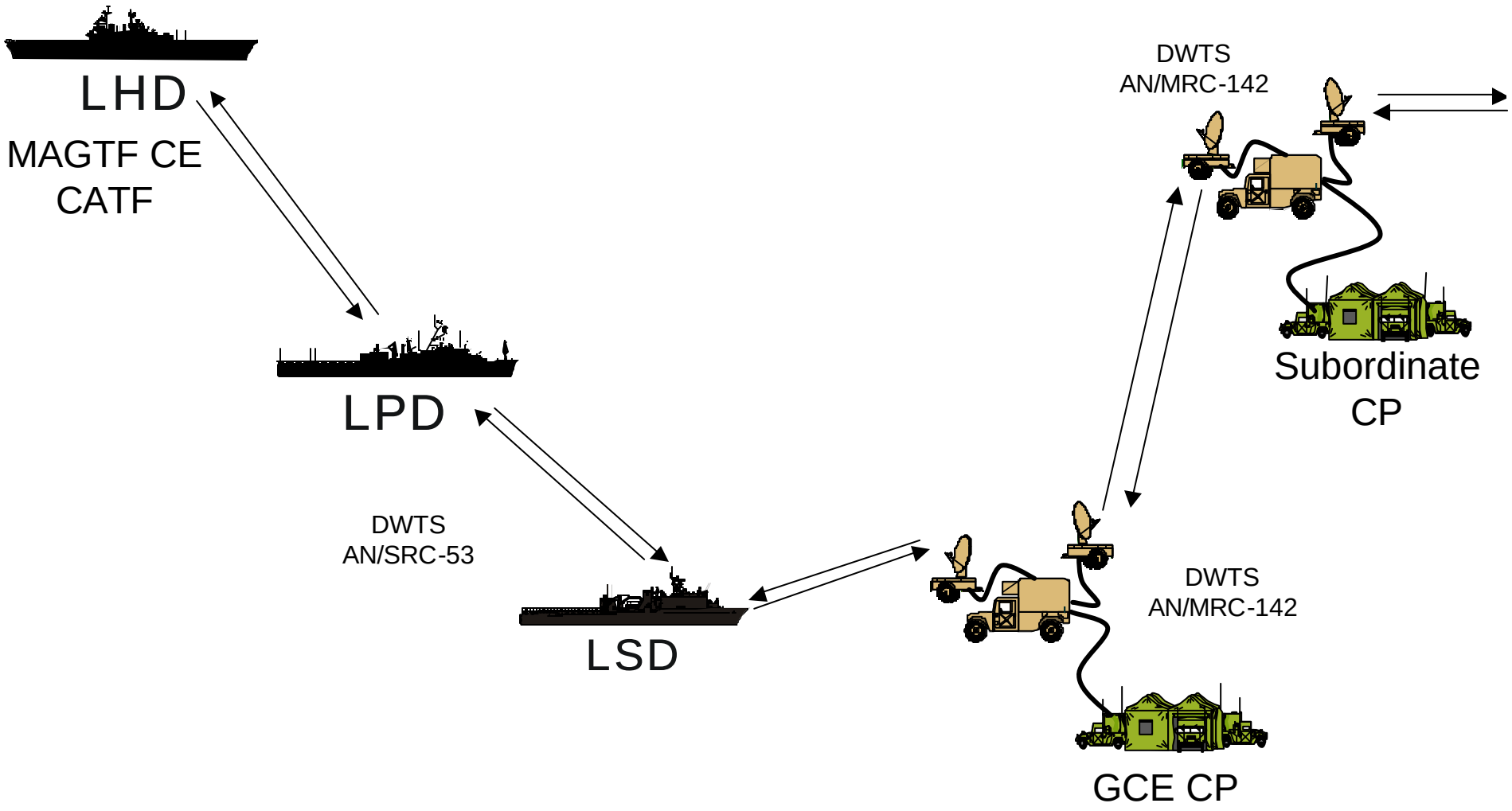
Jun 03 Fn A&S Version 1.0 - Release DoD-Wide

May 03 Fn Architecture Conference, Norfolk

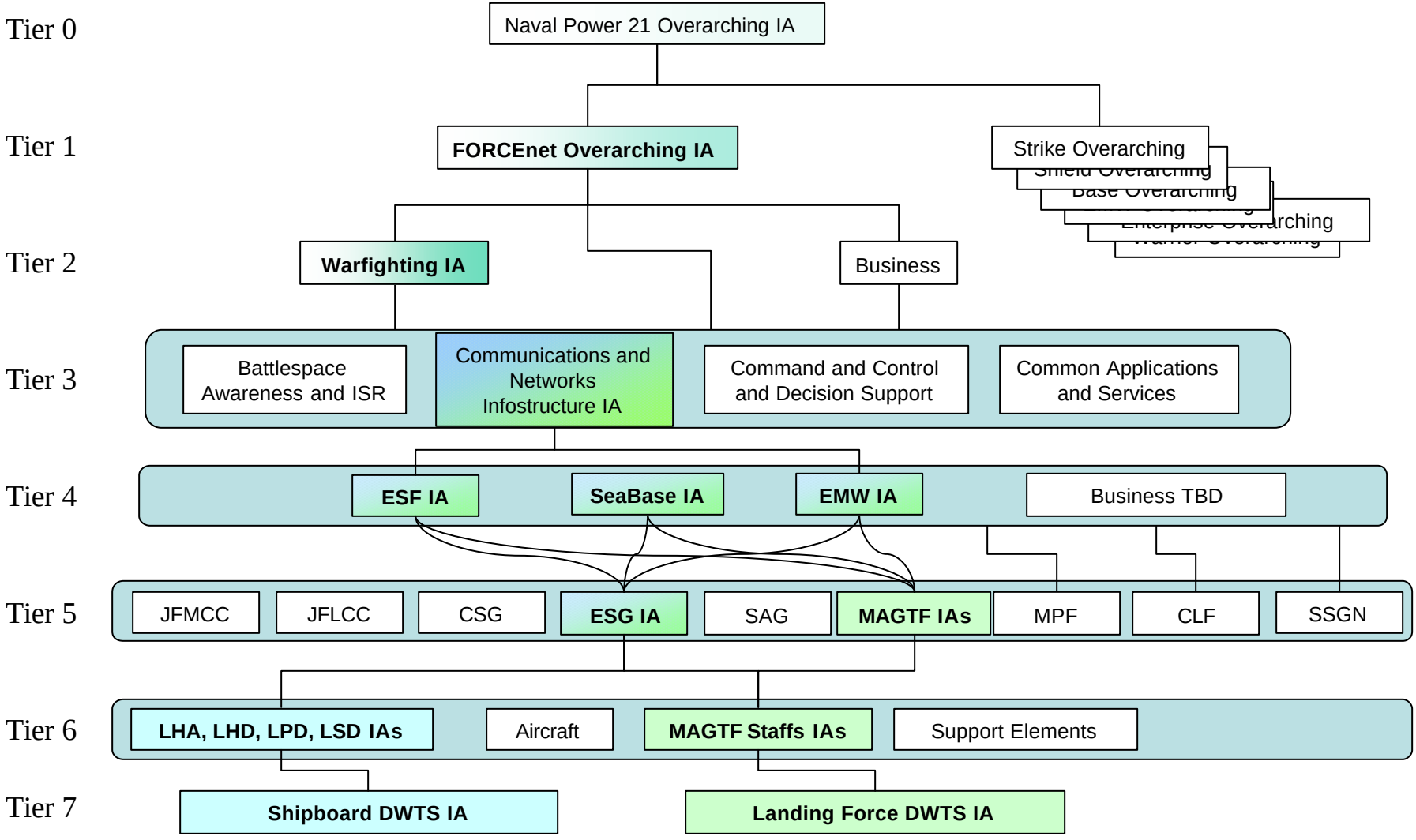
Hierarchy Example

- Digital Wideband Transmission System (DWTS)
- Full Duplex Radio System
  - Landing Force Data Communications up to 512kbs.
  - Procured by MARCORSYSCOM For Marine Corps
  - Procured by SPAWARSYSCOM for Navy

DWTS SV-1


LHD
MAGTF CE
CATF
LPD
LSD
DWTS
AN/SRC-53
DWTS
AN/MRC-142
Subordinate
CP
DWTS
AN/MRC-142
GCE CP

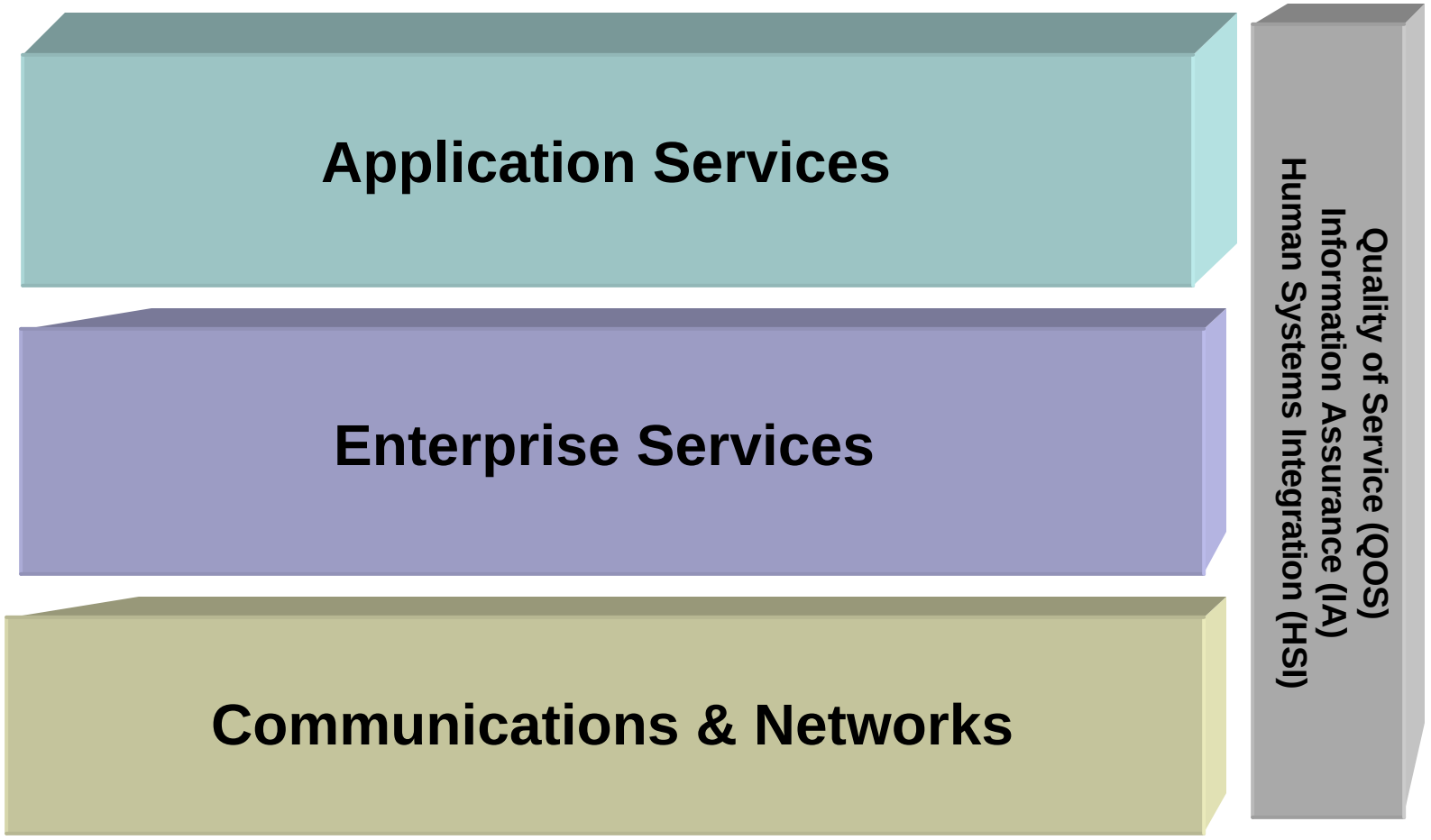
DWTS Capability



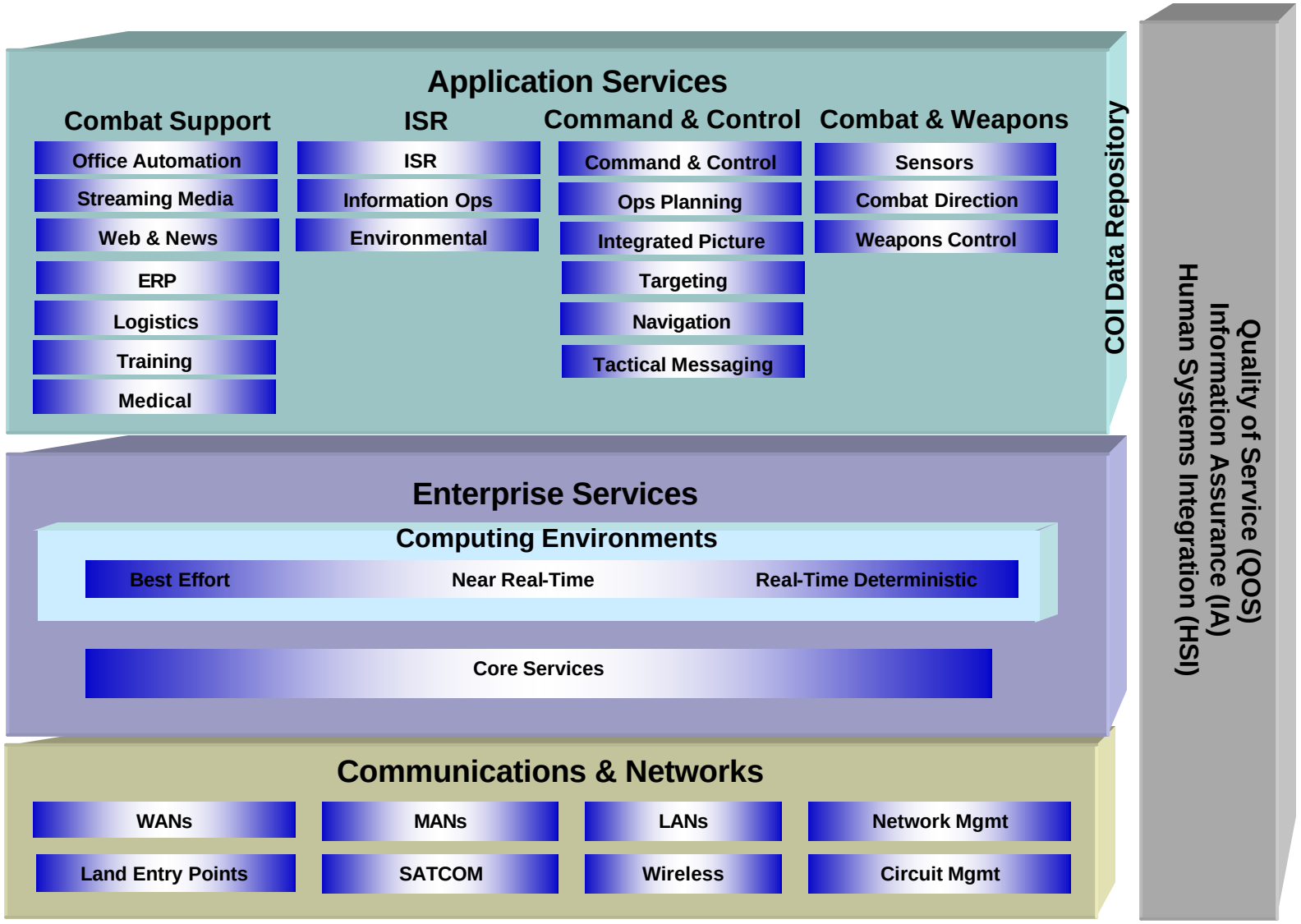
FORCEnet Reference Model

- Supports Development FORCEnet Architecture
- Framework for SOA Quality of the Target Architecture
- Layers of a Component-based Architecture and Relevant Supporting Technologies
- Outlines Elements that Support Implementation of FORCEnet
- Foundation for Re-use of Technology and Component Services

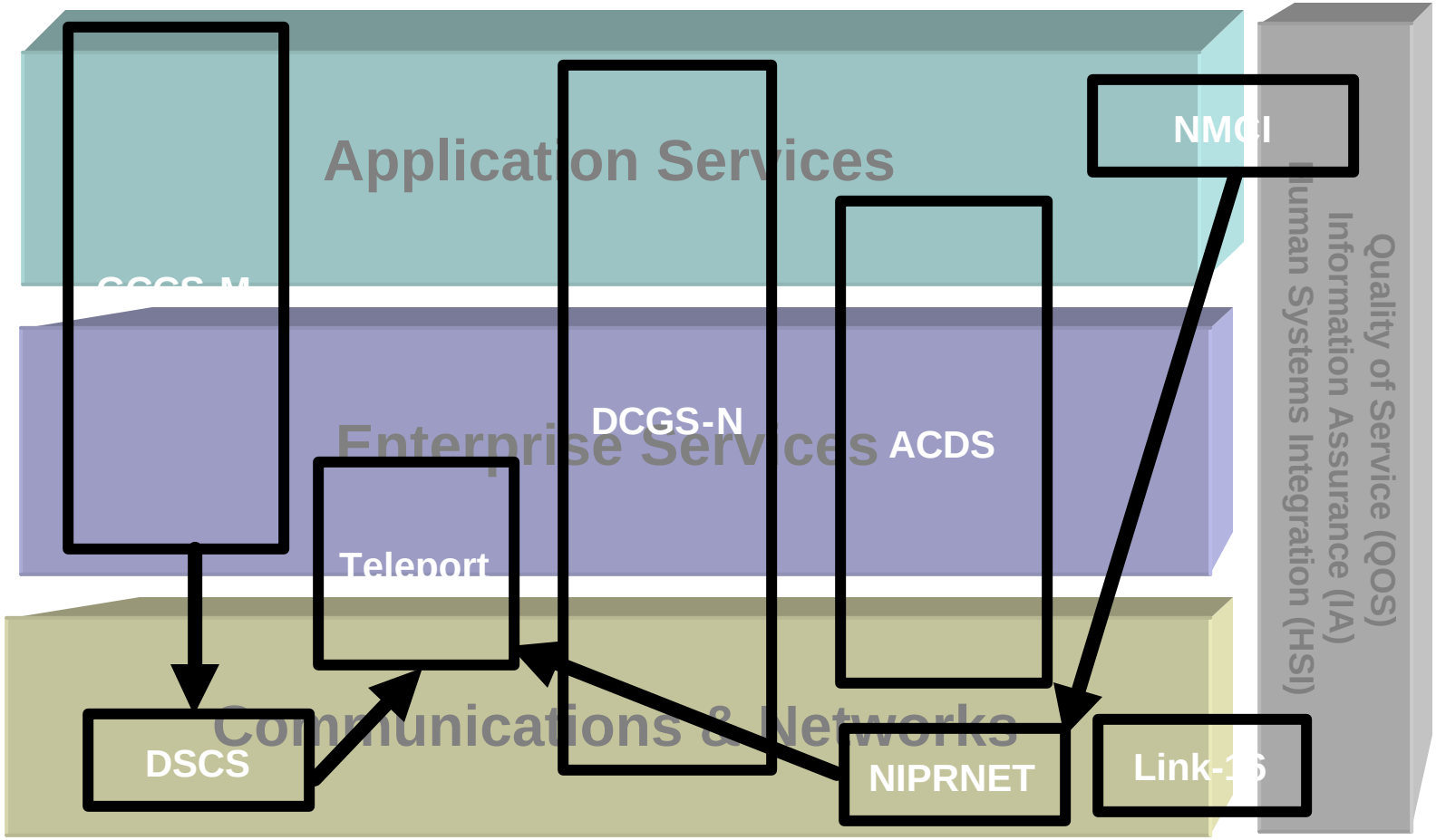
FORCEnet Reference Model Level 0



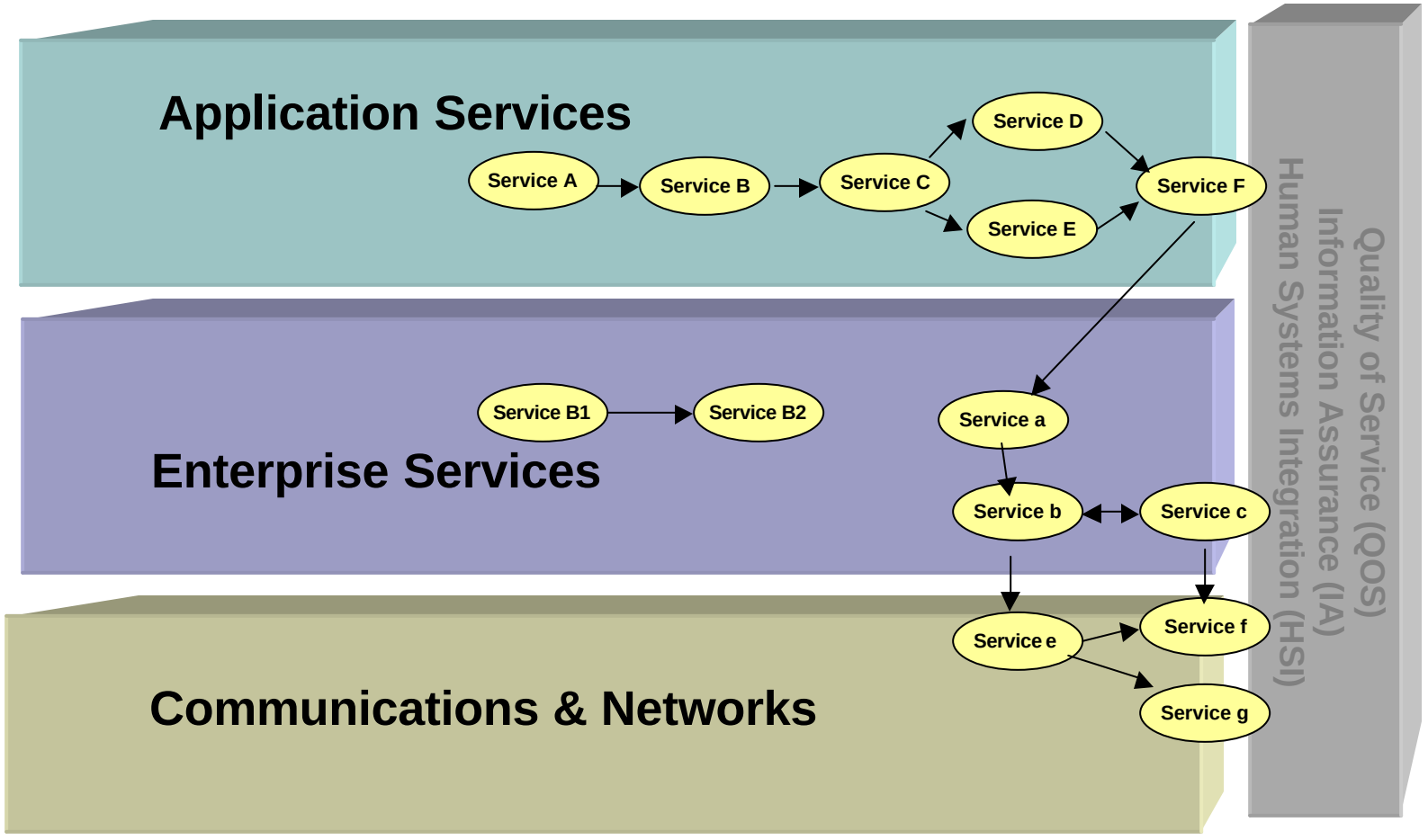
FORCEnet Reference Model Level 1



Systems Mapped to FORCEnet Model



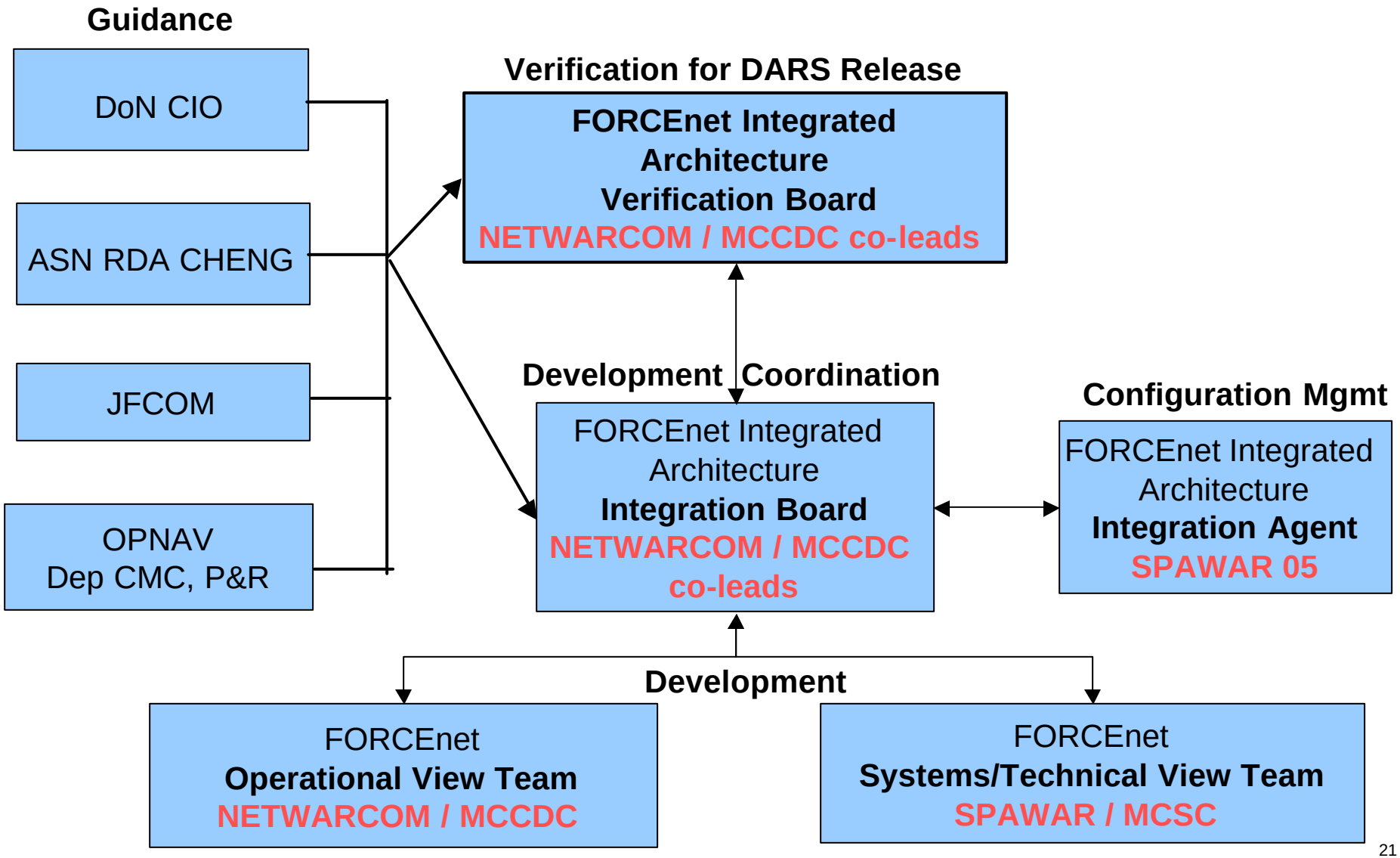
Services Mapped to FORCEnet Reference Model



FORCEnet Integrated Architecture

- **Dec 03 -** Sea Trial Instruction established NETWARCOM as Operational Agent for FORCEnet.
- **Feb 04 -** NETWARCOM Deep Dive Action to plan for Operational View (OV) Development and Architecture Governance. Concept effort started.
- **May/Jun 04 -** OV Plan and Architecture Governance presented at Deep Dive and Flag Summit.
- **Jul 04 -** Monthly AV and OV Working Groups started.
- **Aug 04 -** First Draft of AV-1 and Governance Document.
- **Sep 04 -** Monthly SV Working Group started.
- **Feb 05 -** FORCEnet Functional Concept signed by CNO/CMC.
- **Mar 05 –** Monthly Integration Board started.
- **Apr/Jun/Aug/Oct 05 -** Verification Boards.

FORCEnet Architecture Governance

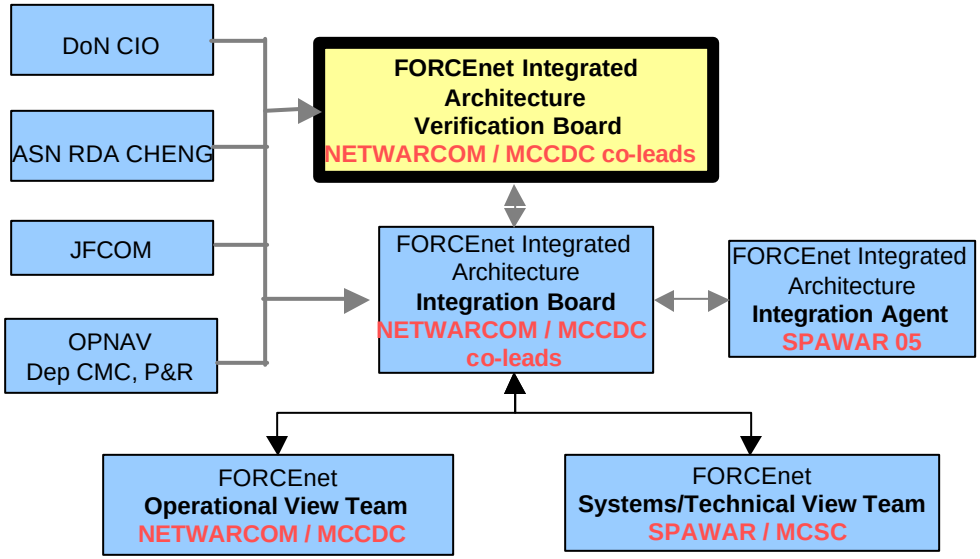


Verification Board

- Mission: Verify FORCEnet Integrated Architecture products are ready for release to the DOD Architecture Repository System (DARS)
- Evaluation Criteria:
  - Maturity
  - DODAF compliance
  - Correct representation of the FORCEnet Functional Concept and other authoritative sources
- Voting:
  - 2/3 Quorum
  - 2/3 Majority vote
- Decisions:
  - Direct product configuration management and DARS release
  - Direct additional work

Verification Board Membership

1. NNWC (Co-Chair)
2. MCCDC (Co-Chair)
3. SPAWAR
4. MCSC
5. OPNAV N71
6. OPNAV N704
7. OPNAV N20
8. NWDC
9. Dep CMC, PP&O
10. Dep CMC, P&R
11. Dep CMC, Aviation
12. Dep CMC, I&L
13. Director, HQMC C4
14. Director, Intel
15. RDA CHENG
16. DoN CIO
17. ONR



Released Views

- R 040037Z NOV 05
  - FM COMSPAWARSYSCOM SAN DIEGO CA
  - SUBJ/FORCENET ARCHITECTURE PRODUCT AVAILABILITY//

-**AV-1** (VER 1.0): OVERVIEW AND SUMMARY INFORMATION
-**AV-2** (VER 1.0): INTEGRATED DICTIONARY (DEVELOPMENT PROCESS ONLY;
-**OV-1** (VER 2.0): HIGH-LEVEL OPERATIONAL CONCEPT GRAPHIC
-**OV-2** (VER 1.0): OPERATIONAL NODE CONNECTIVITY DESCRIPTION
-**OV-4** (VER 1.0): ORGANIZATIONAL RELATIONSHIPS CHART
-**OV-5** (VER 2.0): OPERATIONAL ACTIVITY MODEL
-**OV-6C** (VER 1.0): OPERATIONAL EVENT TRACE DESCRIPTION (HOMELAND DEFENSE [HLD]-MARITIME DOMAIN AWARENESS [MDA])
-**OV-6C** (VER 1.0): OPERATIONAL EVENT TRACE DESCRIPTION (INTELLIGENCE SURVEILLANCE RECONNAISANCE [ISR]-TIME CRITICAL STRIKE [TCS])
-**TV-1** (VER 1.0): TECHNICAL STANDARDS PROFILE
-**TV-2** (VER 1.0): TECHNICAL STANDARDS FORECAST

- Top-Level Architecture For FORCEnet Domain Within Naval Power 21
- Supports Navy and Marine Corps
  - Analysis, Planning, Engineering, Acquisition, Contracting, Modeling, Simulation, Testing
- Available In Navy Community of Interest (COI) Section Of DARS.

Questions?